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Stages of Consumption.

A Consideration of the Early Diagnostic Signs of Pulmonary
Tuberculosis---A Plea for the Recognition
of Premonitory Symptoms.

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THE PRE-TUBERCULAR AND PRE-BACILLARY STAGES OF CONSUMPTION.

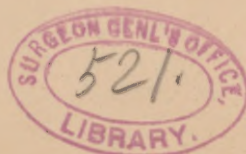
A CONSIDERATION OF THE EARLY DIAGNOSTIC SIGNS OF PULMONARY TUBERCULOSIS — A PLEA FOR THE RECOGNITION OF PREMONITORY SYMPTOMS.

CHARLES MANLY, A. M., M. D., DENVER.

The steady decrease in the mortality from consumption during the years of the decade just passed is attributable not so much to improved methods of treatment as to a better knowledge of the disease itself and the methods which have been put forth towards its prevention. The importance of an early diagnosis in such cases as must arise is apparent.

In attempting a paper under the difficult title of "Pre-Tubercular and Pre-Bacillary Stages," I will not arouse unnecessary antagonisms or limit the freedom of preconceived opinions by essaying to state just what part the bacillus plays in this degenerative process. The pathological enthusiasm aroused by the discovery of Koch's bacillus should not blind us to the fact that there are other elements than the bacillus and the changes which, by its presence, are wrought in the tissues and fluids where it domiciles. There are other elements, I say, necessary to the production of this disease.

The bacillus is ubiquitous, yet only a part of the human race falls victim to its ravages. The individual equation is the necessary factor. Some individual weakness is necessary to be added to the bacillus. This weakness may be inherited or acquired. The question of hereditary influences has already been ably considered by Dr. Ruedi. Many persons with inherited tendencies escape the disease even after prolonged exposure, until some impairment of the general health opens the door to the invasion of infecting bacilli. Certain inherent conditions, I believe, followed by certain incipient stages constituting a negative intoxication (recognizable) precede the developed symptoms of established phthisis, just as a stage of intoxication precedes the lethal symptoms of a large dose of opium.



An alteration
short of
structural
change.

There is something in the physique of these individuals necessary to the production of phthisis—something preceding bacillary infection—something which realizes the fact of that infection and makes it possible, and a something which, being the “personal equation,” determines the course and character and effect of such infection. This condition of health I have dared to call “the pre-tubercular stage.” It has been variously described in the past as, by Dr. Rokistansky, “the phthisical habitus,” by others as the “tuberculous predisposition,” “susceptibility,” “favorable soil,” “lack of resisting power,” “tubercular diathesis,” “good culture medium.” There are still other forms of expressing this same condition of ill health. “That condition which makes the human tissues a receptive soil—a favorable ‘culture medium’ for the tubercle bacillus—that condition which of old was called ‘diathesis’ and now ‘susceptibility’ is itself a disease—a departure from the *normal*—and I believe it to be the most important element in the morbid complexus termed tuberculosis. It is the element requiring the greatest care in prophylaxis—the most intelligent and faithful treatment.”—S. Solis Cohen.

But what do these terms mean? Metschnikoff attempted to show that it is all summed up in a lack of leucocytes to destroy the elements of contagion—a weakness in the microbe-killing activity of these blood scavengers. Others claim that “susceptibility” consists of a want of certain bio-chemical constituents of the tissues, fluids and blood plasma. A generally embryonal condition of the connective tissues—abridgment of the lymph spaces and increase in the solids of the blood. Dr. Cutler advances the theory of “acid dyspepsia”—an acetic acid fermentation resulting in a yeasty condition of the blood.

Others admit that “inherent weakness” is modified tuberculosis, the bacillus being transmitted with the ovum, lying dormant for years, and held in abeyance awaiting a favorable opportunity to develop. Such opportunity is afforded when the surrounding tissues are enfeebled, either by an injury or by some “critical period” of life, when it develops into genuine tuberculosis.

These definitions and theories as to the pre-tubercular stage are inadequate. We seek, therefore, to overcome the difficulty by defining the condition as one of impaired or defective nutrition.

In tuberculosis, generally the first symptom is loss of weight. This is usually the most prominent symptom, and one which is directly proportionate to the progress or severity of the disease. Nutrition is defective in quantity, which leads to atrophy and wasting. It is altered in quality, causing deterioration and softening of the tissues.

The diagnosis of this condition is most difficult. Incipient tuberculosis, simulating, as it does, almost every other disease, is not easily distinguished, especially from typhoid fever. It is often mistaken for gastric disturbances and rectal stricture.

The changes in the lungs themselves may be small or great, but they are generally confined to the periphery where it is not noticeable, or where the bronchial tubes are concerned, a mistaken diagnosis of bronchitis is made. But as in the first and second stages the disease is so thoroughly masked at times as to awaken no suspicion, so in the pre-bacillary stage, the same condition obtains, and the diagnosis should be made objectively. The rational signs are of great weight.

After catarrhal pneumonia, or "La Grippe," or concomitant with a chronic irritation due to foreign substances inhaled incidental to an occupation like cigar making, or coal mining, or any sort of mill work, we find a condition aptly described as "chronic inflammation" and vulgarly known as "phthisic," "winter cough," etc. We know the change in the pulmonary tissues consists as follows: "Cells, the product of inflammation, accumulate in the alveoli and bronchi, and crowd upon each other, becoming densely packed, and thus by mutual pressure are destroyed, and cause at the same time decay (or injury to) lung tissue."

Such conditions we all know present but little auscultatory information, but auscultation is not diagnosis, or, as an eminent authority has expressed it, "I esteem rational symptoms as of greater weight than those signs eliminated by auscultation."

X

"Gastric
Exhaustion"
as a symptom

Associated with progressive loss of weight, nutrition suffers from a loss of appetite and the well known languor which precedes typhoid fever. Patients have often said to me, "I feel exhausted when I awake. A few hours in the early morning I feel stronger, at 11 o'clock exhausted again, and the same at 4 in the afternoon." One cannot claim that such a statement of symptoms is pathognomonic of any particular disease, but I do say it is *especially true of phthisis*.

Perhaps in no class of cases is the element of lassitude so marked and so diagnostic as in children, who, though they may not be the offspring of tuberculous ancestry, may have the so-called predisposition stamped upon them, in belonging to a large family of children born of a mother whose periods of lactation lapped over the periods of pregnancy four or five months each year.

The physician who fails to diagnose the pre-tubercular stage with incipency in such a child at any time when loss of weight and appetite and languor are the symptoms, or when the child has a chronic cough incidental to measles or pertussis, such a failure is a double wrong to the physician's judgment and to the patient's confidence.

It may not be amiss to dwell again upon the importance of careful diagnosis in these cases of measles and whooping cough. When measles exhibit a decided tendency to pulmonary inflammation, the distance to phthisis is not great. The respiratory murmurs may never return to normal clearness. Associated with the frequent relapses into bronchial troubles we find induration and caseation with diminished expansion. This is evidenced by a short but easy cough, rapid respiration without evident dyspnoea.

But this is not the time or occasion for the description of the tuberculous child.

I will not attempt to discuss at length the histology or pathology of this condition of health. Nor will I take up the subject of treatment which is practically that of phthisis itself, and will be discussed in a succeeding paper. But I will pass at once to my conclusions.

CONCLUSIONS:

That there is a pre-tubercular stage.

That it is something more than mere pre-disposition or susceptibility.

That it is a mitigated form of consumption. *without structural change.*

That it is either hereditary or acquired.

That other things being equal, continued loss of weight is suspicious of oncoming tuberculosis.

That the key note of this condition is impaired nutrition.

I wish to deprecate the preponderating importance given to the bacillus, whereas this condition of health occupies the position of a primary etiological factor, to which the bacillus is secondary in importance.

I wish to deprecate the supercilious superficiality with which many physicians veil the seriousness of this condition under the name of "bronchitis."

